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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/700,999	11/03/2003	Lukas Kappenberger	20349-556	5628

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EXAMINER

FAULCON JR, LENWOOD

ART UNIT PAPER NUMBER

3762

DATE MAILED: 03/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/700,999	KAPPENBERGER ET AL. <span style="float: right;">ed</span>	
	Examiner	Art Unit	
	Lenwood Faulcon, Jr.	3762	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 November 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 9, 11-13, 15, 17-19 and 21-23 is/are rejected.
- 7) ☒ Claim(s) 4-8, 10, 14, 16, 20, 24 and 25 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on \_\_\_\_\_ er 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 11-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. As written, the language concerning the interval limitations are confusing and thus are rendered indefinite.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-3, 15, 17-19 and 21-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Prezas et al. (U.S. Patent No. 4,616,659).

Chamoun teaches of a system and method for cardiac biopotential analysis, which detects cardiac arrhythmia in a patient (col. 4 lines 1-9). Chamoun further teaches that the system and method of detecting cardiac arrhythmia involves the steps of detecting ECG signals (col. 6 lines 11-14), performing an autoregressive analysis (col. 12 lines 61-68, col. 13 lines 1-2), determining numerous autoregressive coefficients (col. 13 lines 32-36) and comparing these coefficients with predetermined reference coefficients for the purposes of diagnosis (col. 15 lines 9-60), where the references are

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contained in clinical databases (col. 9 lines 32-37). It is inherent in the system and method as taught by Chamoun, that detecting cardiac arrhythmia (col. 4 lines 1-9) includes detecting atrial fibrillation. It is also inherent in the system and method as taught by Chamoun that it could be applied for the purpose of identifying a compound that modulates atrial fibrillation when a compound is administered to a patient.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chamoun (U.S. Patent No. 5,020,540) as applied to claims 1-3, 15, 17-19 and 21-23 above, and further in view of Prezas et al. (U.S. 4,616,659).

Prezas et al. teaches of a system and method for heart rate detection utilizing autoregressive analysis. Prezas et al. further teaches of using autoregressive analysis to account for noise signals (col. 2 lines 6-11).

It would have been obvious to one having ordinary skill in the art at the time of the invention to combine the teachings of Chamoun and Prezas et al. to have a method and system for detecting cardiac arrhythmia by utilizing autoregressive analysis that accounts for a noise signal. Chamoun and Prezas et al. both teach of using autoregressive analysis in detecting a patient's heart rate, and thus teach of analogous arts. It would have been obvious to modify the system and method as taught by

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Chamoun in using the autoregressive analysis to account for noise signals as taught by Prezas, since it would enhance the signals and results obtained by the operator.

Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to combine the teachings of Chamoun and Prezas et al. to have a system and method for detecting cardiac arrhythmia by using autoregressive analysis, which accounts for noise signals.

### ***Allowable Subject Matter***

7. Claims 4-8, 10, 14, 16, 20, 24-25 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### ***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Albert et al. (U.S. Patent No. 4,947,857), Siegel et al. (U.S. Patent No. 4,974,162), Albert et al. (U.S. Patent No. 5,046,504), Haberl et al. (U.S. Patent No. 5,215,099), Siegel et al. (U.S. Patent No. 5,365,426), Verrier et al. (U.S. Patent No. 5,437,285), Verrier et al. (U.S. Patent No. 5,560,370), Verrier et al. (U.S. Patent No. 5,842,997), Lander et al. (U.S. Patent No. 5,891,047), Verrier et al. (U.S. Patent No. 5,921,940), Shusterman et al. (U.S. Patent No. 5,967,995).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lenwood Faulcon, Jr. whose telephone number is 571-272-6090. The examiner can normally be reached on Monday-Thursday from 9 to 5 pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Angela D. Sykes, can be reached on 571-272-4955. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Lenwood Faulcon, Jr.



George Manuel

Primary Examiner